

CLAIMS

What is claimed is:

1. A heat exchanger comprising:  
an aluminum member coated with a resin.
- 5 2. The heat exchanger of claim 1, wherein at least one constituent part of said heat exchanger comprises one of said aluminum member.
3. The heat exchanger of claim 1, wherein said heat exchanger is a stacked-type heat exchanger having at least one heat transfer tube and at least one fin, said at least one heat transfer tube and said at least one fin being stacked alternately.
- 10 4. The heat exchanger of claim 3, wherein said at least one heat transfer tube is formed by a pair of tube plates, such that flange portions of said pair of tube plates are connected.
5. The heat exchanger of claim 1, wherein said resin is a thermoplastic resin.
6. The heat exchanger of claim 1, wherein said resin is a thermosetting resin.
7. The heat exchanger of claim 1, wherein said resin provides lubricity.
8. The heat exchanger of claim 1, wherein said resin is a polyester resin.
9. The heat exchanger of claim 1, wherein said resin is a nylon resin.
10. The heat exchanger of claim 1, wherein said resin is a vinylidene fluoride resin.
11. The heat exchanger of claim 1, wherein said resin is coated on a surface of said aluminum member with a thickness in a range between about 5 $\mu\text{m}$  and about 50 $\mu\text{m}$ .
12. The heat exchanger of claim 1, wherein said aluminum member is connected to another resin-coated aluminum member by fusing said resin.
13. A method for manufacturing a heat exchanger, comprising the steps of:  
coating a surface of an aluminum member with a resin;  
cutting said aluminum member to a predetermined size; and  
connecting said aluminum member to another resin-coated aluminum member by fusing said resin.
- 25 14. The method of claim 13, further comprising the step of:  
molding said aluminum member with a die press.

15. The method of claim 13, further comprising the steps of:  
stacking a plurality of heat transfer tubes and a plurality of fins alternately,  
said heat transfer tubes and said fins being made of said aluminum member; and  
connecting said plurality of heat transfer tubes and said plurality of fins by fusing  
5 said resin.
16. The method of claim 15, further comprising the steps of:  
forming said heat transfer tubes from a pair of tube plates;  
coating each of said pair of tube plates with a resin; and  
connecting said pair of tube plates by fusing said resin.
- 10 17. The method of claim 13, wherein said resin is a thermoplastic resin.
18. The method of claim 13, wherein said resin is a thermosetting resin.
19. The method of claim 13, wherein said resin provides lubricity.
20. The method of claim 13, wherein said resin is a polyester resin.
21. The method of claim 13, wherein said resin is a nylon resin.
22. The method of claim 13, wherein said resin is a vinylidene fluoride resin.
23. The method of claim 13, wherein a thickness of said resin coating is in a range  
between about 5 $\mu$ m and about 50 $\mu$ m.
24. A method for manufacturing a heat exchanger, comprising the steps of:  
coating a surface of an aluminum member with a resin;  
forming said aluminum member as a constituent part of said heat exchanger;  
cutting said aluminum member to a predetermined size; and  
connecting said aluminum member to another resin-coated aluminum member by  
fusing said resin.
- 25 25. The method of claim 24, further comprising the step of:  
molding said aluminum member with a die press.
26. The method of claim 24, further comprising the steps of:  
stacking a plurality of heat transfer tubes and a plurality of fins alternately, said  
heat transfer tubes and said fins being made of said aluminum member; and  
connecting said plurality of heat transfer tubes and said plurality of fins by fusing  
30 said resin.

27. The method of claim 26, further comprising the steps of:  
forming each of said plurality of heat transfer tubes from a pair of tube plates;  
coating each of said pair of tube plates with a resin; and  
connecting said pair of tube plates by fusing said resin.
- 5           28. The method of claim 24, wherein said resin is a thermoplastic resin.
29. The method of claim 24, wherein said resin is a thermosetting resin.
30. The method of claim 24, wherein said resin provides lubricity.
31. The method of claim 24, wherein said resin is a polyester resin.
32. The method of claim 24, wherein said resin is a nylon resin.
- 10          33. The method of claim 24, wherein said resin is a vinylidene fluoride resin.
34. The method of claim 24, wherein a thickness of said resin is in a range between  
about 5 $\mu$ m and about 50 $\mu$ m.
35. A heat exchanger made according to the method of claim 13.
36. A heat exchanger made according to the method of claim 24.

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